

REMARKS:

Claims 1-9, 11, 13-22, 24, 26-27 and 29-30 were presented for examination and were pending in this application. In an Official Action dated August 7, 2006, claims 1-9, 11, 13-22, 24, 26-27 and 29-30 were rejected.

Claims 1, 14, 27, 29, and 30 are amended herein merely to additionally recite inherent features of the invention as described in the specification. No new matter is added by this amendment.

Response to Rejection Under 35 USC § 112, Paragraph 1

In paragraph 18 of the Office Action, claims 1-9, 11, 13-22, 24, 26-27 and 29-30 were rejected for failing to satisfy the written description requirement for failing to describe in the specification how validity is determined for an application verb or state machine, what validity consists of, or how data from a packet is separated into multiple flows. This rejection is respectfully traversed.

In paragraph 8 of the Office Action, it is asserted that Applicant's arguments presented on page 12 of the May 22, 2006 response present information that is not in the specification. This assertion lacks specificity as to what portion of page 12 is allegedly not in the specification. Applicant respectfully submits that the remarks included extensive citations to the specification, and respectfully requests that the Office describe what portions of page 12 are not in the specification. Applicant resubmits its remarks from the May 22, 2006 response with further citation to the specification.

The specification describes determining whether an application verb is valid to satisfy the written description requirement under 35 USC §112, Paragraph 1. (see for example pg. 15, ll. 12-18 of the specification). Furthermore, the specification also explains how validity

for an application verb could be determined in sufficient detail for one of ordinary skill in the art to practice the invention to satisfy the enablement requirement under 35 USC §112, Paragraph 1. (see for example pg. 15, ll. 12-18 of the specification). The example given in pg. 15, ll. 12-18 of the specification reads:

“It is then determined whether the verb is valid in decision 606. A verb is valid based on predetermined criteria. For example, an acknowledgement (ACK) may not be a valid verb, while a GET request may be considered valid. In general, the criteria may be such that the only verbs that are monitored are those for which response times are desired.”

An application verb can include any specific application transaction or transaction type. (See pg. 4, ll. 10-11 of the specification.) Thus, reading page 15, lines 12-18 and page 4, lines 10-11 of the specification together, a valid application verb could include any application transaction for which response times are desired as indicated by the predetermined criteria. The validity of an application verb could be determined, for example, by identifying the transaction type (see pg. 15, ll. 10-11 of the specification) and determining whether the transaction type is one for which the response time is to be measured as indicated by the predetermined criteria (see for example pg. 15, ll. 12-18 of the specification).

The specification describes determining whether a state machine is in a valid state to satisfy the written description requirement under 35 USC §112, Paragraph 1. Furthermore, the specification also explains how validity for a state machine could be determined in sufficient detail for one of ordinary skill in the art to practice the invention to satisfy the enablement requirement under 35 USC §112, Paragraph 1. One example is given in pg. 15, ln. 26 to pg. 16, ln. 3 of the specification, which reads:

“Subsequently, it is determined whether the state machine is in a valid state in decision 614. It should be noted that the state machine takes into account various errors, complications, network mishaps, etc. that leave the state machine in a

detectable invalid state. Thus only if the state machine is in a valid state, is it utilized as being representative of the response time..."

The state machine tracks the last seen verb and the states that are traversed for a conversation flow. (See pg. 11, ll. 6-13 of the specification.) Thus, reading pg. 15, ln. 26 to pg. 16, ln. 4 and pg. 11, ll. 6-13 of the specification together, various network errors can disrupt the conversation flow and cause the state machine to be in an invalid state. A valid state of the state machine is a state in which no errors, complications, or network mishaps have caused an invalid state of the state machine to occur. See pg. 15, ln. 26 to pg. 16, ln. 4 of the specification reproduced above. Since the state machine tracks the last seen verb (see pg. 11, ll. 6-13 of the specification) and conversation flows (see pg. 11, ll. 6-13 of the specification), it is clear to one of ordinary skill in the art that the validity of the state machine can be determined, for example, by considering the last seen verb and the conversation flow as stored in the state machine to determine an invalid state, such as whether any errors, complications, or network mishaps have caused an invalid state of the state machine to occur. See pg. 15, ln. 26 to pg. 16, ln. 4 and pg. 11, ll. 6-13 of the specification.

The specification describes aggregating packet data into flows to satisfy the written description requirement under 35 USC §112, Paragraph 1. Claims 1, 14, 27, and 30 actually recite "aggregating packet data into flows" and claim 29 recites "aggregating the packet data into a flow." Thus the claims do not limit the invention to a single packet or to *separating* data from a single packet. Furthermore, the specification also explains aggregating packet data into one or more flows in sufficient detail for one of ordinary skill in the art to practice

the invention to satisfy the enablement requirement under 35 USC §112, Paragraph 1. One example is given in pg. 13, ll. 14-26, which reads:

“Once received, the packet data is classified in operation 404. The packet data may be classified on various fields (i.e. source, destination, etc.), or by any other mechanism capable of identifying a flow with which the packet data is associated...It is then determined whether the packet data is associated with a new flow, or if the packet data is associated with an existing flow. See decision 406. If the packet data is associated with a new flow, a plurality of operations is carried out to create and monitor the new flow....For example, the flow is initially created in operation 408 after which a notification of the flow is made in operation 410. This notification serves to prompt the creation of a data structure such as that set forth earlier during reference to Figure 3....”

Another example is given in page 9, ll. 5-7, which reads:

“In use packet data is aggregated to an existent flow if one exists for the conversation that the packet data belongs to, or a new flow is created in the absence of such a flow.”

Thus, the claimed invention of claims 1, 14, 27, and 30 aggregate the packet data into flows, and the claimed invention of claim 29 aggregates the packet data into a flow, by determining whether the packet data is associated with an existing flow. Packet data can be identified as being associated with a flow by various fields (such as source or destination) or other fields. If the packet data is associated with a new flow, a plurality of operations is carried out to create and monitor the new flow. Packet data can be aggregated into multiple flows, for example, by aggregating some packet data into an existing flow and aggregating some other packet data into a new flow, as described in pg. 13, ll. 19-23 of the specification.

In paragraph 19 of the Office Action, claims 1-9, 11, 13-22, 24, 26-27 and 29-30 were rejected for allegedly lacking enablement for failing to adequately explain in the specification how to perform “updating a state machine determining whether the state machine is in a valid

state". The Office Action states that "it is not possible to update a state machine that determines whether said state machine was in a valid state, since such updating would prevent said state machine from performing said determination accurately." However, Applicants respectfully submit that the claims are misread in the Office Action. Independent claims 1, 14, 27, 29, and 30 variously recite:

"…responsive to determining that the application verbs are valid, updating a state machine;…
determining whether the state machine is in a valid state;"

Applicants amends claim 1 to merely clarify the invention and recites in pertinent part "responsive to updating the state machine, determining whether the state machine is in a valid state". Independent claims 14, 27, 29, and 30 are similarly amended.

In addition, the Office Action incorrectly states that updating of the state machine would prevent the state machine from performing the determination of validity of the state machine incorrectly. However, Applicants respectfully disagree, because the claimed invention updates the state machine and then determines whether that *updated* state machine is in a valid state. Thus, the validity of the state machine is determined based upon the updated state machine. This claim limitation is supported by the adequate description and enablement of both of these elements in the specification, for example, in pg. 15, ln. 19 to pg. 16, ln. 3 of the specification, which reads:

"…The state machine is updated in operation 608. It is then determined in operation 610 as to whether the response is complete. This may be accomplished by using the state machine associated with the data structure… Subsequently, it is determined whether the state machine is in a valid state in decision 614. It should be noted that the state machine takes into account various errors, complications, network mishaps etc. that leave the state machine in a detectable invalid end state. Thus, only if the state machine is in a valid state, is it utilized as being representative of the response time…"

The state machine is updated, for example, as shown in operation 608. Then, the validity of that *updated* state machine can be determined, for example, by considering the last seen verb and the conversation flow as stored in the state machine to determine whether any errors, complications, or network mishaps have caused an invalid state of the state machine to occur.

It is respectfully submitted that, for at least these reasons, the rejections under 35 USC 112, paragraph 1 should be withdrawn.

Response to Rejection Under 35 USC § 112, Paragraph 2

In paragraphs 6-7 the Office Action, claims 1-9, 11, 13-22, 24, 26-27, and 29-30 were rejected as being indefinite. The Office Action states that “one of ordinary skill in the art would be unable to ascertain what was used as the benchmark to determine validity of an application verb.” This rejection is respectfully traversed.

Independent claims 1, 14, 27, 29, and 30 variously recite:

“...determining whether the application verbs are valid, the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured;...”

The claims are supported by the specification, which describes determining the validity of application verbs based on predetermined criteria indicating whether the response time of that application verb should be measured. One example is given in pg. 15, ll. 11-18 of the specification, which reads:

It is then determined whether the verb is valid in decision 606. A verb is valid based on predetermined criteria. For example, an acknowledgement (ACK) may not be a valid verb, while a GET request may be considered valid. In general, the criteria may be such that the only verbs that are monitored are those for which response times are desired.

“Breadth of a claim is not to be equated with indefiniteness.” (MPEP 2173.04 citing *In re Miller*, 441 F.2d 689, 169, 169 USPQ 597 (CCPA 1971)). One of ordinary skill in the art would be able to understand that validity is determined based on predetermined criteria by reading the amended claims 1, 14, 27, 29, and 30. Stated differently, one of ordinary skill in the art would understand that an application verb is determined valid if the predetermined criteria indicate that the response time of the application verb should be measured. The claims do not require the benchmarks for determining validity as suggested in the Office Action.

Applicants respectfully submit that, for at least these reasons, the rejections under 35 USC 112, paragraph 2 are overcome and should be withdrawn.

Response to Rejection Under 35 USC 102(b)

In paragraphs 8-20 of the Final Office Action, the Examiner rejected claims 1-9, 11, 13-22, 24, 26-27, and 29-30 under 35 USC §102(b) as allegedly being anticipated by U.S. Patent No. 6,839,751 (“Dietz”). This rejection is now traversed.

Independent claims 1, 14, 27, and 30 as amended, variously claim a method, a computer-readable medium, or a system for calculating application verb response times, and variously recite:

“determining whether the application verbs are valid, the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured”,

“responsive to determining that the application verbs are valid... updating a state machine”,

“responsive to updating the state machine, determining whether the state machine is in a valid state”, and

“responsive to determining that the state machine is in a valid state...storing the information relating to the application verbs.”

These aspects of the claimed invention are greatly beneficial. By storing the information relating to the application verbs responsive to a determination of a state machine, which in turn is updated responsive to determining that the application verbs are valid, the claimed invention limits the information stored relating to the application verbs and allows for selective analysis and recording of application verbs.

Dietz does not disclose “responsive to updating the state machine, determining whether the state machine is in a valid state”, and “responsive to determining that the state machine is in a valid state...storing the information relating to the application verbs” as recited in claims 1, 14, 27 and 30. Rather, Dietz describes a method for re-using information from data transactions in maintaining statistics in network monitoring by “determining quality of service metrics *based on each and every packet*”. See Dietz Col.4, lines 14-15. Dietz explicitly teaches that statistics should be recorded for all packets. Col. 4 ll. 23-30 of Dietz, for example, discloses:

“...looking up to determine if the received packet is of an existing flow. Each and every packet is processed. If the packet is of an existing flow the method... [stores] one or more statistical measures kept in the flow entry. If the packet is of a new flow, the method...[stores] one or more statistical measures kept in the flow entry.”

As Dietz records statistics for all packet transmissions, every packet transmission or receipt associated with an application flow affects the statistical time measurement for that application flow. By contrast, in the claimed inventions of claims 1, 14, 27, and 30, information relating to the application verbs is stored responsive to “determining whether the state machine is in a valid state”.

Although Dietz “determines the protocols and where in the state sequence for a flow this protocol’s packet belongs,” this determination is simply used to classify the received packet into a flow to simplify later addition of more information to the flows. See Dietz col. 11, lines 43-45; col. 11, lines 40-58; col. 12, lines 62-65. The state processor disclosed by Dietz has nothing to do with determining whether to store information relating to application verbs, as Dietz teaches that each and every data packet is used to update statistical measures. Rather, the state processor of Dietz is used to more quickly recognize conversation flow, as explained in col. 13 ll. 21-25, which reads:

“Once a particular set of state transitions has been traversed for the first time and ends in a final state, a short-cut recognition pattern- a signature- an (sic) be generated that will key on every new incoming packet that relates to the conversational flow...”

Thus, the state processor disclosed by Dietz is merely used for flow recognition, and not for determining whether information relating to application verbs should be stored, as in claims 1, 14, 27, and 30. Dietz never determines “whether the state machine is in a valid state” and does not store information “responsive to determining that the state machine is in a valid state.” In contrast, the inventions of claims 1, 14, 27, and 30 stores the information relating to the application verbs if it is determined that the state machine is in a valid state.

Dietz further fails to disclose “determining whether the application verbs are valid, the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured,” as recited in independent claims 1, 14, 27, and 30. Dietz may disclose recognizing a packet type using a flow signature (see Dietz col. 7, ln. 53-65), but Dietz does not disclose any relationship between the recognized packet type and whether the response time of an application verb should be measured. Dietz merely discloses a process of generating a flow signature “that allows recognition of any future packets that may follow in the conversation flow.” (See Dietz col. 8, ln. 11-14.). The signature generation of Dietz is used to identify conversation flow, and is not used to determine the validity of application verbs. Dietz does not disclose checking packets to see if they contain valid application verbs, or that an application verb would be determined valid if response time should be measured. Recognizing packet types using a flow signature as disclosed in Dietz is not equivalent to determining if application verbs are valid based upon whether or not response times of the application verbs should be measured as recited in claims 1, 14, 27, and 30.

In paragraph 13 of the Office Action, it is asserted that if “a packet was received, then logically the state machine was determined to be in a valid state.” Applicant respectfully submits that this conclusion does not follow. The state processor of Dietz as described above is used to recognize conversation flow, and is not related to determining whether to store information. Under the argument in paragraph 13, a packet in Dietz can be received only if the state processor of Dietz is valid. Claims 1, 14, 27, and 30 recite receiving packet data, aggregating the packet data into flows, determining whether the application verbs are valid, responsive to determining that the application verbs are valid updating a state machine, and

“responsive to updating the state machine, determining whether the state machine is in a valid state”. Dietz does not disclose or even suggest these features.

Paragraph 15 of the Office Action cites column 11, lines 55-58 of Dietz for “the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured.” In this cited portion, Dietz merely discloses updating statistical measures of flows, and this cited portion does not disclose or suggest predetermined criteria or application verbs being valid if predetermined criteria indicate that response times of the applications verbs should be measured as recited in claim 1.

Therefore, it is respectfully submitted that the inventions of claims 1, 14, 27, and 30, as amended, are patentably distinct from Dietz.

Claims 2-9, 11, and 13 are dependent directly or indirectly from claim 1, and claims 15-22, 24, and 26 are dependent directly or indirectly from claim 14. Therefore, all arguments set forth with respect to claims 1 and 14 are hereby incorporated so as to apply to claims 2-9, 11, 13, 15-22, 24, and 26. Thus, it is respectfully submitted that the inventions of dependent claims 2-9, 11, 13, 15-22, 24, and 26 are also patentably distinct from Dietz for at least the same reasons as described above.

Response to Rejection Under 35 USC 103(a)

In paragraphs 21-24 of the Final Office Action, claims 7, 20, and 29 were rejected under 35 USC §103(a) as allegedly being obvious over Dietz. This rejection is respectfully traversed.

Claims 7 and 20 (through their dependency from claims 1 and 14) and claim 29 include “determining whether the state machine is in a valid state, the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured” and “responsive to determining that the state machine is in a valid state...storing the information relating to the application verbs.” As explained above, Dietz fails to disclose “determining whether the state machine is in a valid state, the application verbs being valid if predetermined criteria indicate that response times of the application verbs should be measured” and “responsive to determining that the state machine is in a valid state...storing the information relating to the application verbs.”

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of Dietz preclude the Examiner from establishing even a *prima facie* basis from which a proper determination of obviousness can be made. Thus, it is respectfully submitted that claims 7, 20, and 29 are also patentably distinct from Dietz.

Conclusion

In summary, it is respectfully submitted that all pending claims 1-9, 11, 13-22, 24, 26-27 and 29-30 are in condition for allowance. Favorable action is solicited.

Respectfully Submitted,
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